

URAL

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AGRICULTURAL
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CHEMICAL USAGE

1998

Agricultural Chemical Usage 1998

The agricultural chemical use estimates in this report refer to on-farm use of commercial fertilizers and pesticides on the targeted crops for the 1998 crop year. Farm and ranch operators were enumerated late in the growing season or after the farm operator had indicated that planned applications were completed.

Previous to this report, chemical use on winter wheat had been based on the acres harvested for grain. Beginning with this report, chemical use is based on acres planted. The expected effect of this change may be a slightly higher percentage of area applied with a corresponding increase in total applied. For some samples, the type of wheat was not determined prior to data collection. The result was that some states have insufficient data to publish chemical use on some types of wheat.

WINTER WHEAT: Fertilizer and Pesticide Applications, Total Acreage and Percentage Receiving Applications, Major States and Total, 1997-98

State	Area Har-vested	Area Planted	Area Receiving Fertilizer 1/						Area Receiving Pesticide 2/					
			Nitrogen		Phosphate		Potash		Herbicide		Insecticide		Fungicide	
	1997	1998	1997	1998	1997	1998	1997	1998	1997	1998	1997	1998	1997	1998
	1,000 Acres		Percent						Percent					
CA	3/	500	3/	--	3/	--	3/	--	3/	47	3/	--	3/	--
CO	2,700	2,750	68	78	39	33	--	4	64	61	13	--	--	--
GA	3/	290	3/	98	3/	90	3/	86	3/	--	3/	--	3/	18
ID	860	820	98	97	62	67	11	23	98	88	--	--	--	--
IL	1,090	1,250	91	98	69	82	77	70	40	47	--	--	--	--
KS	10,900	10,700	78	92	56	74	8	13	31	65	--	--	--	--
LA	3/	100	3/	91	3/	32	3/	30	3/	--	3/	--	3/	10
MN	3/	60	3/	--	3/	--	3/	--	3/	--	3/	--	3/	--
MS	3/	160	3/	100	3/	14	3/	14	3/	55	3/	--	3/	11
MO	1,080	1,350	92	98	81	86	70	86	33	28	--	--	--	--
MT	1,450	1,400	95	90	78	88	23	31	88	89	--	--	--	--
NE	1,900	1,900	92	85	74	59	--	12	53	52	--	--	--	--
NC	3/	730	3/	91	3/	76	3/	84	3/	60	3/	13	3/	15
OH	1,090	1,200	100	100	92	93	98	94	20	13	--	--	--	--
OK	5,300	6,600	90	95	47	64	7	15	38	42	13	6	--	--
OR	815	810	100	99	15	9	--	1	100	100	--	--	24	21
PA	175	4/	81	4/	60	4/	59	4/	21	4/	--	4/	--	4/
SD	1,150	1,500	78	94	58	92	--	--	89	88	--	--	--	--
TX	4,100	6,100	78	75	36	50	16	22	24	27	18	7	--	--
WA	2,150	2,200	98	100	34	30	12	10	98	97	--	--	1	3
Total	34,760	40,420	84	89	53	63	15	22	46	47	5	3	1	2

1/ Refers to acres receiving one or more applications of a specific fertilizer ingredient. 2/ Refers to acres receiving one or more applications of a specific pesticide class. 3/ Not Included in survey in 1997. 4/ Not Included in survey in 1998. -- Insufficient reports to publish data.

OTHER SPRING WHEAT: Fertilizer and Pesticide Applications, Total Acreage and Percentage Receiving Applications, Major States and Total, 1997-98

State	Area Planted		Area Receiving Fertilizer 1/						Area Receiving Pesticide 2/					
			Nitrogen		Phosphate		Potash		Herbicide		Insecticide		Fungicide	
	1997	1998	1997	1998	1997	1998	1997	1998	1997	1998	1997	1998	1997	1998
	1,000 Acres		Percent						Percent					
ID	3/	530	3/	96	3/	86	3/	33	3/	95	3/	--	3/	--
MN	2,450	1,950	98	100	91	97	73	64	94	97	--	11	--	37
MT	4,250	3,800	79	61	66	55	15	22	94	81	--	--	--	--
ND	8,800	6,700	99	97	92	87	24	20	88	98	--	7	--	7
OR	3/	100	3/	--	3/	--	3/	--	3/	98	3/	--	3/	--
SD	2,350	1,950	90	84	70	66	--	11	86	73	--	--	--	--
WA	3/	470	3/	--	3/	--	3/	--	3/	100	3/	--	3/	--
Total	17,850	15,500	92	87	82	77	25	25	90	91	1	6	--	9

1/ Refers to acres receiving one or more applications of a specific fertilizer ingredient. 2/ Refers to acres receiving one or more applications of a specific pesticide class. 3/ Not included in survey in 1997. -- Insufficient reports to publish data.

Survey Procedures

The data in this report was compiled from the Agricultural Resources Management Study (ARMS) conducted in the Fall of 1998. Targeted crops in the ARMS include corn, upland cotton, fall potatoes, sorghum, soybeans, and winter, durum, and other spring wheat. State-level estimates are published for these commodities. Growers in Alaska and Hawaii were not surveyed and are not included in the U.S. totals.

This report contains chemical usage information on winter and other spring wheat. Agricultural chemical usage for all of the other targeted crops are available from our office and are contained in the national release located on the Internet at www.usda.gov/nass/pubs/rptscal.htm.

TERMS AND DEFINITIONS

Agricultural chemicals refer to ingredients in both fertilizer and pesticide products. Fertilizer in this report refers to applications of the primary nutrients, nitrogen, phosphate, and potash.

Pesticides include any substance or mixture of substances intended for preventing, destroying, repelling or mitigating any pest, and any substance or mixture of substances intended for use as a plant regulator, defoliant, or desiccant. Pests targeted by pesticides include weeds, insects, fungi, and other forms of life.

Herbicides, insecticides, fungicides, and other chemicals make up the four classes of pesticides presented in this report. Miticides and nematicides are included as insecticides while soil fumigants, growth regulators, defoliants, and desiccants are included as other chemicals. This report excludes pesticides used for seed treatments and for postharvest applications to the commodity. Spot treatments are a small percentage (approximately 1%) of the applications and are also normally excluded from the report for planted crops.

Active ingredient is the specific chemical which kills or controls the target pests. Usage data, that are reported by pesticide product, are converted to an amount of active ingredient. Some active ingredients have more than one way of being converted. For example, in this report copper compounds are expressed in their metallic copper equivalent, and others such as glyphosate and 2,4-D in their acid equivalent.

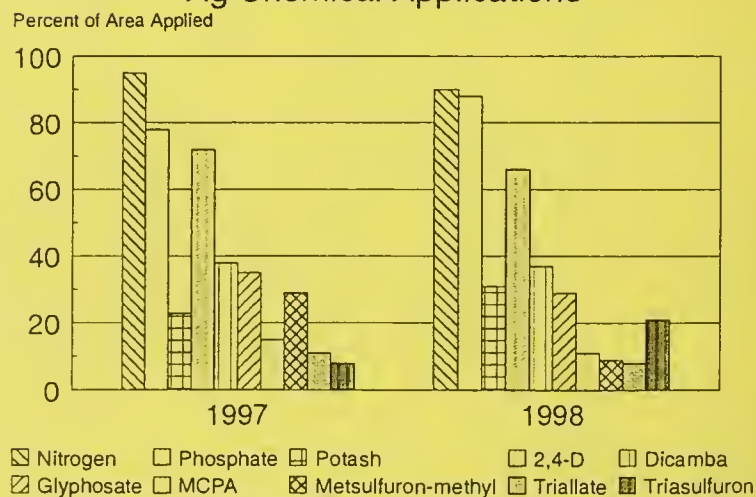
Trade name is the actual product name given to a specific formulation of a pesticide product. A formulation contains a specific concentration of the active ingredient, carrier materials, and other ingredients such as emulsifiers and wetting agents. Some formulations, as in the case of pre-mixes, can contain more than one active ingredient. Common name is the published name for the active ingredient.

Rate per application refers to the average number of pounds of fertilizer, primary nutrient, or pesticide active ingredient applied to an acre of land in one application. Rate per crop year is the average number of pounds of an ingredient applied to one acre of land counting multiple applications. Number of applications is the average number of times a treated acre receives a specific agricultural chemical.

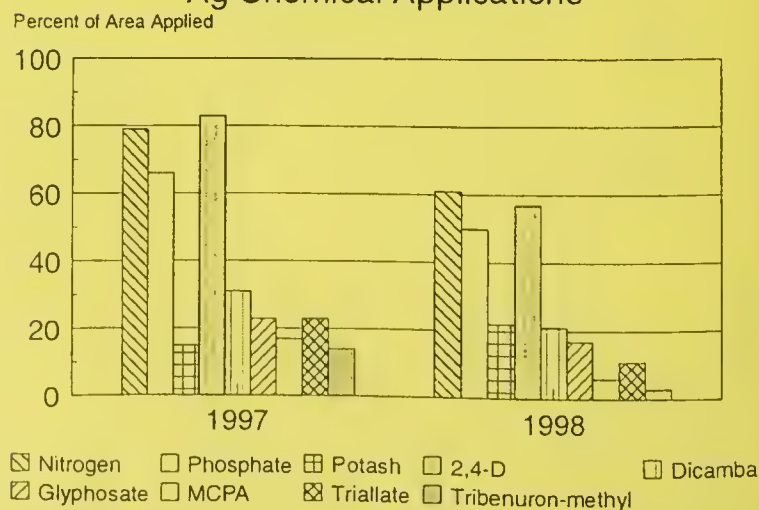
Area applied represents the percent of crop acres receiving one or more applications of a specific ingredient. This report does not contain acre treatments. However, acre treatments can be calculated by multiplying the acres planted, by the percent of area applied, and the average number of applications.

Crop year refers to the period immediately following harvest for the previous crop through harvest of the current crop.

Montana Winter Wheat Ag Chemical Applications



Montana Spring Wheat Ag Chemical Applications



WINTER WHEAT: Agricultural Chemical Applications, Montana, 1997-98 1/

Agricultural Chemical 2/	Area Applied 3/		Applications		Rate per Application		Rate per Crop Year		Total Applied	
	1997	1998	1997	1998	1997	1998	1997	1998	1997	1998
	Percent		Number		Pounds per Acre		Pounds per Acre		Million Lbs.	
Fertilizers:										
Nitrogen	95	90	1.4	1.5	32	35	47	54	64.5	67.9
Phosphate	78	88	1.1	1.1	26	24	28	25	31.4	30.7
Potash	23	31	1.0	1.0	13	11	13	12	4.3	5.1
Herbicides:									(000) Lbs.	
2,4-D	72	66	1.0	1.0	.38	.32	.39	.32	404	297
Dicamba	38	37	1.3	1.0	.11	.11	.14	.13	74	69
Fenoxaprop	--	5	--	1.0	--	.08	--	.08	--	5
Glyphosate	35	29	1.6	1.6	.31	.32	.50	.54	251	220
MCPA	15	11	1.0	1.0	.20	.35	.20	.36	45	56
Metsulfuron-methyl	29	9	1.0	1.0	.004	.007	.004	.007	2	1
Thifensulfuron	--	2	--	1.0	--	.010	--	.010	--	4/
Triallate	11	8	1.0	1.0	1.38	1.26	1.38	1.26	219	134
Triasulfuron	8	21	1.0	1.0	.01	.005	.01	.005	1	1
Tribenuron-methyl	10	3	1.0	1.0	.006	.006	.006	.006	1	4/

1/ Area harvested in 1997 for Montana was 1.45 million acres and 1.40 million acres planted in 1998.

2/ Insufficient reports to publish data for all agricultural chemicals applied.

3/ Refers to acres receiving one or more applications of a specific agricultural chemical.

4/ Total applied is less than 1,000 pounds.

-- Insufficient reports to publish data.

Note: Data may not multiply across due to rounding.

OTHER SPRING WHEAT: Agricultural Chemical Applications, Montana, 1997-98 1/

Agricultural Chemical 2/	Area Applied 3/		Applications		Rate per Application		Rate per Crop Year		Total Applied	
	1997	1998	1997	1998	1997	1998	1997	1998	1997	1998
	Percent		Number		Pounds per Acre		Pounds per Acre		Million Lbs.	
Fertilizers:										
Nitrogen	79	61	1.6	1.3	28	44	45	56	153.5	129.6
Phosphate	66	56	1.0	1.0	23	30	24	31	68.2	64.5
Potash	15	22	1.0	1.0	16	12	16	12	10.2	10.3
Herbicides:										
									(000) Lbs.	
2,4-D	83	57	1.0	1.0	.34	.39	.34	.40	1,239	865
Dicamba	31	21	1.1	1.1	.09	.10	.10	.11	131	90
Glyphosate	23	17	1.1	1.4	.24	.30	.27	.43	272	276
MCPA	17	6	1.0	1.0	.30	.29	.32	.29	237	70
Triallate	23	11	1.0	1.0	1.18	1.22	1.18	1.22	1,156	490
Trialsulfuron	9	--	1.0	--	.008	--	.008	--	3	--
Tribenuron-methyl	14	3	1.0	1.0	.01	.01	.01	.01	6	2

1/ Area planted in 1997 for Montana was 4.25 million acres and 3.8 million acres in 1998.

2/ Insufficient reports to publish data for all agricultural chemicals applied.

3/ Refers to acres receiving one or more applications of a specific agricultural chemical.

-- Insufficient reports to publish data.

Note: Data may not multiply across due to rounding.

Trade Names, Common Names, and Classes

The following is a list of common names of active ingredients with the associate class and trade name. The classes are herbicides (H), insecticides (I), fungicides (F). This list is provided as an aid in reviewing pesticide data. Pre-mixes are not listed. The list is not complete and NASS does not mean to imply use of any specific trade name.

Class	Common Name	Trade Name
H	2,4-D	Several
H	Bromoxynil	Buctril, Brominal
F	Carboxin	Vitavax
I	Chlorpyrifos	Lorsban, Dursban
H	Chlorsulfuron	Glean
H	Dicamba	Banvel
H	Diclofop-methyl	Hoelon
H	Difenzoquat	Avenge
I	Disulfoton	Di-Syston
H	Diuron	Karmex, Direx
H	Fenoxaprop	Whip, Option
H	Glyphosate	Roundup, Ranger, Rattler, Rodeo
H	Imazamethabenz	Assert
I	Lambda-cyhalothrin	Karate, Saber, Warrior
H	MCPA	Several
H	Metribuzin	Sencor, Lexone, Axiom
H	Metsulfuron-methyl	Ally
I	Permethrin	Ambush, Pounce
H	Picloram	Tordon, Grazon
F	Propiconazole	Tilt, Banner, Orbit
H	Thifensulfuron-methyl	Pinnacle
F	Thiophanate-methyl	Topsin
H	Triallate	Far-Go
H	Triasulfuron	Amber
H	Tribenuron-methyl	Express
H	Trifluralin	Treflan, Trilin, Trific